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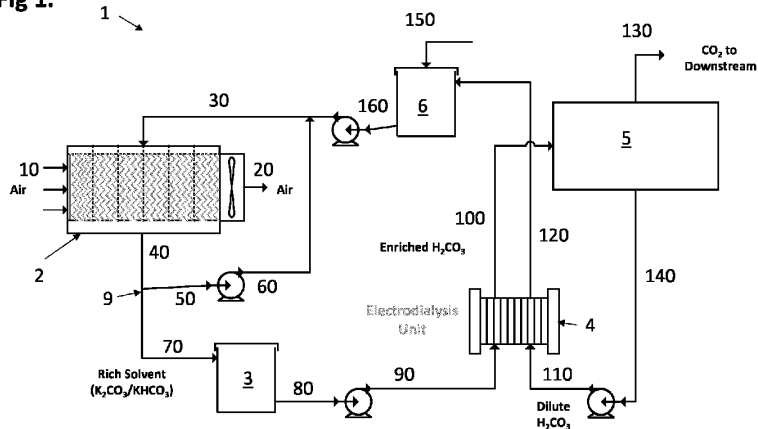
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(54) Title: A PROCESS FOR CAPTURING CO₂ FROM AIR

Fig 1.



(57) Abstract: The present invention provides a process for capturing carbon dioxide (CO₂) from a CO₂-containing gas stream, in particular air, the process at least comprising the steps of: (a) providing a CO₂-containing gas stream (10); (b) contacting the CO₂-containing gas stream (10) provided in step (a) in a contactor (2) with a liquid solvent (30) thereby obtaining a CO₂-depleted gas stream (20) and a first CO₂-loaded solvent stream (40); (c) splitting the first CO₂-loaded solvent stream (40) obtained in step (b), thereby obtaining a second CO₂-loaded solvent stream (70) and a third CO₂-loaded solvent stream (50); (d) temporarily storing the second CO₂-loaded solvent stream (70) obtained in step (c) in a first tank (3); (e) passing CO₂-loaded solvent (80) from the first tank (3) to an electrochemical device (4); (f) subjecting the CO₂-loaded solvent (80) in the electrochemical device (4) to an electrochemical reaction thereby obtaining a gas/liquid mixture (100); (g) separating the gas/liquid mixture (100) obtained in step (f) in a gas/liquid separator (5) thereby obtaining a gas stream (130) and a first liquid stream (140); (h) temporarily storing the first liquid stream (140) obtained in step (g) in a second tank (6); (i) recycling first liquid (160) from the second tank (6) to the contactor (2) for use as the liquid solvent (30) in step (b).

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